REFERENCE

KUNTE, K. (2000): Butterflies of Peninsular India. Pp. 149-152. *In*: India - A Lifescape. (Ed.: Gadgil, M.). Universities Press, Hyderabad.

29. ON THE TAXONOMY AND APPEARANCE OF *MIXOLOPHIA OCHROLAUTA* WARREN (LEPIDOPTERA: GEOMETRIDAE) IN THE KUMAON HIMALAYA

Mixolophia ochrolauta Warren is a rare Emerald moth (Subfamily Geometrinae) known from a male specimen from Bhutan, which is the type, and a female from Nepal. The early stages are unknown. A single female has been recorded in Jones Estate in the Bhimtal valley of the Kumaon Himalaya, extending the known distribution of this taxon westwards. The specimen is in my collection and is described below.

***Mixolophia* Warren**

1894. *Nov. Zool*: 391.

Mixolophia ochrolauta Warren

1894. *Nov. Zool.*: 391.

Material Examined: 1 ex.: 30.ix.1977 (female).

Forewing Length: 14 mm.

Distribution: Nepal, Bhutan (Prout 1934); Bhutan (Hampson 1895).

Remarks: A new record for the Kumaon Himalaya.

According to Hampson (1895), the antennae of the male are ciliated. The antennae of the specimen examined are simple, hence it is a female. The specimen is not in perfect condition for, although the wings are intact, the scales have been rubbed off in parts, especially around the tornal area of the forewings.

The ground colour is a dull yellowish-green, agreeing with Hampson's (1895) and Prout's (1934) descriptions, but not matching the illustration in Seitz (1915), where the ground colour is a much brighter green. The specimen examined differs in another important aspect, that is the area between the postmedial line and the margin of the forewing *recto* is not striated with white above vein Cu_{1a}, as in the illustration. Hampson (1895) also noted that the veins of the outer area are white. Rather, this area is plain green with a white marginal line in the specimen examined. The specimen matches the descriptions and illustration in all other respects.

The legs of the specimen are intact and all the spurs on the hind tibiae are developed.

DISCUSSION

The specimen was recorded at the end of the SW monsoon. In subfamily Geometrinae, there are very few univoltine species in the area and it is unlikely that this is one of them. It is more likely that there is an earlier generation in spring or at the beginning of the monsoon.

Not much can be inferred about the habitat preferences of this species. It is very rare in the Bhimtal valley and the specimen recorded was probably a straggler from higher or lower elevation. It is certainly very local as well as a Himalayan endemic, but whether its rarity in collections is due to its scarcity in nature or its retiring habits will only be clarified by an understanding of its life history. It is probably commoner in biotopes that have not been thoroughly surveyed so far.

The specimen examined differs somewhat from the other two known specimens. This appears to be a case of infraspecific variation, as commonly occurs in *Episothalma robustaria* Guenée and *Spaniocentra lyra* Swinhoe of the same subfamily.

Warren (1894) and Hampson (1895) described the male, since the female was unknown at the time. Prout (1934) described both sexes. Differences between the sexes appear to be restricted to the structure of the legs and antennae.

According to Prout (1934), the hindlegs of the male type specimen are lacking. Hence, it is not possible to decide whether the species should remain in the monobasic genus *Mixolophia* or be transferred to a section of *Metallochlora* Warren. The main difference between the genera rests on the development of spurs on the hind tibiae of the male. If these are all fully developed, as in *Metallochlora*, then there is little justification for the continuance of *Mixolophia*, since the only remaining differences are details of form and colour.

Hampson (1895) placed *ochrolauta* in the genus *Hemithea* Duponchel, under the section in which the antennae of the male are ciliated and the hind tibiae lack medial spurs. Since Hampson stated that he examined the specimens of the species described in his work, and the only known specimen of *ochrolauta* at that time was the male type, it is evident that the type specimen had its hindlegs in 1895. By the time Prout examined the specimen during the 1930s, the legs were broken off, perhaps due to careless handling.

Proceeding on Hampson's (1895) statement that the male's hind tibiae lack medial spurs, it follows that *Mixolophia* differs from *Metallochlora* sufficiently to be a valid genus and that *ochrolauta* is correctly separated from *Metallochlora*.

February 14, 2003

PETER SMETACEK
Jones Estate, P.O. Bhimtal,
Nainital 263 136, Uttaranchal, India.

REFERENCES

HAMPSON, G.F. (1895): The Fauna of British India including Ceylon and Burma. Moths Vol. III. Taylor & Francis, London.

PROUT, L.B. (1934): *In*: A. Seitz (ed.) Der Gross Schmetterlinge der Erde. Die Indoaustralischen Spanner (text). Alfred Kernen, Stuttgart.

SEITZ, A. (1915): Der Gross Schmetterlinge der Erde. Die Indoaustralischen Spanner (plates). Alfred Kernen, Stuttgart.

WARREN, W. (1894): Novitates Zoologicae. London.

30. NEW RECORD OF *ALEUROCANTHUS MARTINI* DAVID, HOMOPTERA: ALEYRODIDAE, FROM INDIA

The whitefly genus *Aleurocanthus* Takahashi is represented in India by 20 species (Jesudasan and David 1991). David (1993) described *Aleurocanthus martini* David from Sri Lanka infesting *Sebastiania chamaelea* Mull-Arg. (Euphorbiaceae). In the present communication, we are reporting this species for the first time from India, breeding on 11 host plants in the Western Ghats.

***Aleurocanthus martini* David**

Aleurocanthus martini David 1993. The Whitefly of Sri Lanka. *FIPPAT Entomological Series* 3:12.

Materials examined: 5 pupal cases mounted on slides, on *Macaranga peltata,* Honnawar (Karnataka), 5.ii.2001, Coll: A.K. Dubey; 3 pupal cases mounted on slides, on *Terminalia crenulata*, Shimoga, 29.i.2001, Coll: A.K. Dubey; 10 pupal cases mounted on slides, on *Clerodendron viscosum,* Dharamsthala, 7.ii.2001, Coll: A.K. Dubey; 4 pupal cases mounted on slides, on *Homolium zeylanicum*, Unachalli falls, 19.ii.2001, Coll: A.K. Dubey; 10 pupal cases mounted on slides, on *Pterospermum diversifolium,* Unchalli falls, 19.ii.2001, Coll: A.K. Dubey; 3 pupal cases mounted on slides, on *Grewia orbiculata*, Kulum, 28.ii.2001, Coll: A.K. Dubey; 2 pupal cases mounted on slides, on *Sapindus laurifolia*, Kulem, 28.ii.2001, Coll: A.K. Dubey; 6 pupal cases mounted on slides, on *Areca catechu*, Karwar, 3.i.2001, Coll: A.K. Dubey; 3 pupal cases mounted on slides, on *Ixora* sp., Jog falls, 29.i.2001, Coll: A.K. Dubey; 1 pupal case mounted on slide, on *Tamarindus indica*, Bangalore, 21.ii.2001, Coll: A.K. Dubey; 5 pupal cases mounted on slides, on *T. grandis*, Bangalore, 17.ii.2001, Coll: A.K. Dubey.

Host range and distribution: The distribution of this species on different host plants is given in Table 1. It was found in three southern states of India, namely Goa, Karnataka and Kerala, on 11 host plants belonging to 10 families.

Table 1: Host plants of *A. martini* in Western Ghats

S. No.	Family	Host name	Distribution
1	Caesalpiniaceae	*Tamarindus indica Linn.*	Bangalore (Karnataka)
2	Combretaceae	*Terminalia crenulata* Roth.	Shimoga (Karnataka)
3	Euphorbiaceae	*Macaranga peltata* (Roxb.) Muell	Honnnawar (Karnataka)
4	Flacourtiaceae	*Homolium zeylanicum (Gardn.)* Benth.	Unachalli falls (Karnataka)
5	Palmae	*Areca catechu* Linn	Karwar (Karnataka)
6	Rubiaceae	*Ixora sp.*	Jog falls (Karnataka)
7	Sapindaceae	*Sapindus laurifolia*	Mahendragiri (Tamil Nadu)
8	Sterculiaceae	*Pterospermum diversifolium* Bl. Bijdr.	Unachalli falls (Karnataka)
9	Tiliaceae	*Grewia orbiculata* Rottl.	Kulem (Goa)
10	Verbenaceae	*Clerodendron viscosum* Vent.	Dharamsthala (Karnataka)
		Tectona grandis Linn. f.	Bangalore (Karnataka)

February 22, 2003

ANIL KUMAR DUBEY
R. SUNDARARAJ
Wood Biodegradation Division
Institute of Wood Science & Technology
P.O. Malleswaram, Bangalore 560 003,
Karnataka, India.

REFERENCES

DAVID, B.V. (1993): The whitefly of Sri Lanka. *FIPPAT Entomological Series 3*: 12.

JESUDASAN & B.V. DAVID (1991): Taxonomic studies on Indian Aleyrodidae (Insecta: Homoptera), *Oriental Ins. 25*: 243-253.

31. NEW RECORD OF BROWN MUSSEL *PERNA INDICA* KURIAKOSE AND NAIR 1976, FROM KARNATAKA COAST

Mussels (Phylum Mollusca, Class Pelecypoda, Order Filibranchiata, Family Mytilidae) form one of the most common food sources, generally termed as poor man's food and make a sizable contribution to marine fisheries. In the past few years, in order to meet the ever-increasing demand for protein-rich nutrition, mussel culture has been taken up as a prospective